

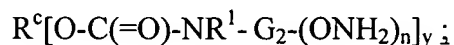
AMENDMENTS

This listing of claims will replace all prior versions, and listing, of claims in the application:

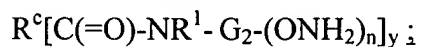
In the Claims:

Claims 1-15 (withdrawn)

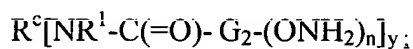
Claim ~~16~~¹ (currently amended): A valency platform molecule having a formula selected from the group consisting of:



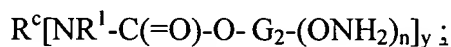
Formula 3;



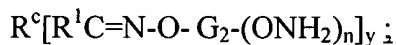
Formula 4;



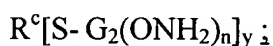
Formula 5;



Formula 6;



Formula 7; and,



Formula 8;

wherein:

y is 1 to 16;

n is 1 to 32;

y * n is at least 3;

R¹ is H, alkyl, heteroalkyl, aryl, heteroaryl or G₂-(ONH₂)_n; and,

R^c and each G₂ are independently organic moieties comprising atoms selected from the group consisting of H, C, N, O, P, Si and S atoms.

Claim ~~17~~² (currently amended): The valency platform molecule of claim ~~16~~¹, wherein R^c and each G₂ independently comprise a straight chain, branched or cyclic structure, and are independently selected from the group consisting of:

hydrocarbyl groups consisting only of H and C atoms and having 1 to ~~200~~ 5,000 carbon atoms;

organic groups consisting only of carbon, oxygen, and hydrogen atoms, and having 1 to ~~200~~ 5,000 carbon atoms;

organic groups consisting only of carbon, oxygen, nitrogen, and hydrogen atoms, and having from 1 to ~~200~~ 5,000 carbon atoms;

organic groups consisting only of carbon, oxygen, sulfur, and hydrogen atoms, and having from 1 to ~~200~~ 5,000 carbon atoms; and,

organic groups consisting only of carbon, oxygen, sulfur, nitrogen and hydrogen atoms and having from 1 to ~~200~~ 5,000 carbon atoms.

Claim ~~18~~³ (currently amended): The valency platform molecule of claim ~~16~~¹, wherein R^e R^c is selected from the group consisting of a C1-200 hydrocarbon moiety; a C1-200 alkoxy moiety; and a C1-200 hydrocarbon moiety comprising an aromatic group.

Claim ~~19~~⁴ (original): The valency platform molecule of claim ~~16~~¹, wherein R^c comprises an oxyalkylene moiety.

Claim ~~20~~⁵ (original): The valency platform molecule of claim ~~19~~⁴, wherein R^c comprises an oxyethylene moiety.

6
Claim ~~21~~ (currently amended): The valency platform molecule of claim ~~16~~¹, wherein R^c comprises oxyethylene units:



wherein n is 1-~~100~~ 5,000.

7
Claim ~~22~~ (currently amended): The valency platform molecule of claim ~~16~~¹, wherein G₂ comprises a functional group selected from the group consisting of alkyl, ~~heteralkyl~~ heteroalkyl, aryl, and heteroaryl.

8
Claim ~~23~~ (original): The valency platform molecule of claim ~~16~~¹, wherein G₂ comprises a functional group selected from the group consisting of a C1-200 hydrocarbon moiety; a C1-200 alkoxy moiety; and a C1-200 hydrocarbon moiety comprising an aromatic group.

9
Claim ~~24~~ (original): The valency platform molecule of claim ~~16~~¹, wherein G₂ comprises an oxyalkylene moiety.

10
Claim ~~25~~ (original): The valency platform molecule of claim ~~16~~¹, wherein G₂ comprises an oxyethylene moiety.

C1
11
Claim ~~26~~ (currently amended): The valency platform molecule of claim ~~16~~¹, wherein G₂ comprises oxyethylene units:



wherein n is 1-~~100~~ 1-500.

12
Claim ~~27~~ (original): The valency platform molecule of claim ~~16~~¹, wherein each G₂ independently comprises a functional group selected from the group consisting of amine; amide; ester; ether; ketone; aldehyde; carbamate; thioether; piperazinyl; piperidinyl; alcohol; polyamine; polyether; hydrazide; hydrazine; carboxylic acid; anhydride; halo; sulfonyl; sulfonate; sulfone; imidate; cyanate; isocyanate; isothiocyanate; formate; carbodiimide; thiol; oxime; imine; aminooxy; and maleimide.

13
Claim ~~28~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[O-C(=O)-NR^1-G_2-(ONH_2)_n]_{y_2}$$

Formula 3.

14
Claim ~~29~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[C(=O)-NR^1-G_2-(ONH_2)_n]_{y_2}$$

Formula 4.

15
Claim ~~30~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[NR^1-C(=O)-G_2-(ONH_2)_n]_{y_2}$$

Formula 5.

16
Claim ~~31~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[NR^1-C(=O)-O-G_2-(ONH_2)_n]_{y_2}$$

Formula 6.

17
Claim ~~32~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[R^1C=N-O-G_2-(ONH_2)_n]_{y_2}$$

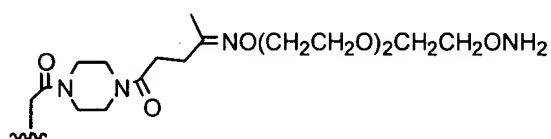
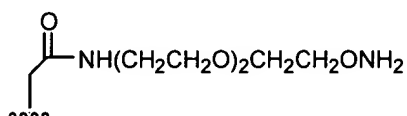
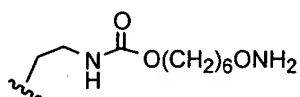
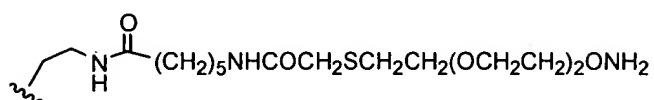
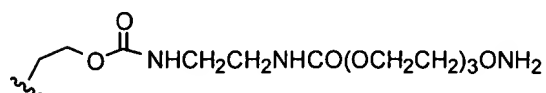
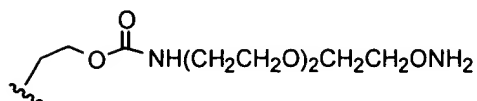
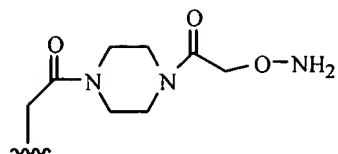
Formula 7.

C1
18
Claim ~~33~~ (currently amended): The valency platform molecule of claim ~~16~~ having the formula:
$$R^c[S-G_2(ONH_2)_n]_{y_2}$$

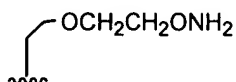
Formula 8.

19
Claim ~~34~~ (currently amended): A composition comprising two or more valency platform molecules according to molecules of claim 16, wherein the valency platform molecules have a polydispersity less than about 1.2.

20
Claim ~~35~~ (currently amended): The valency platform molecule of claim ~~16~~, wherein each G_2-ONH_2 is independently selected from the group consisting of:

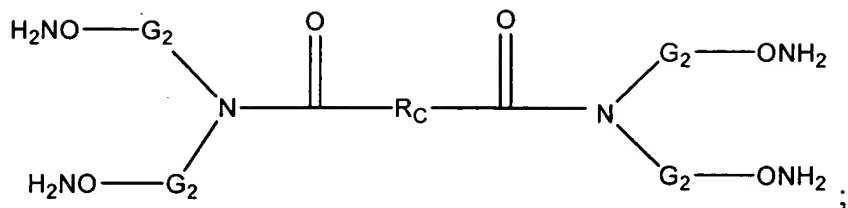


and

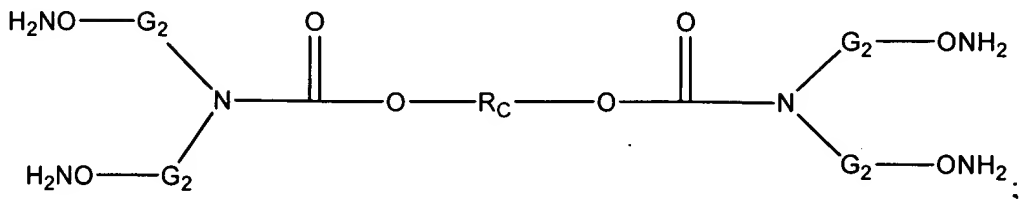


Claim ~~36~~ ²¹ (currently amended): The valency platform molecule of claim ~~16~~ ¹ having a formula selected from the group consisting of:

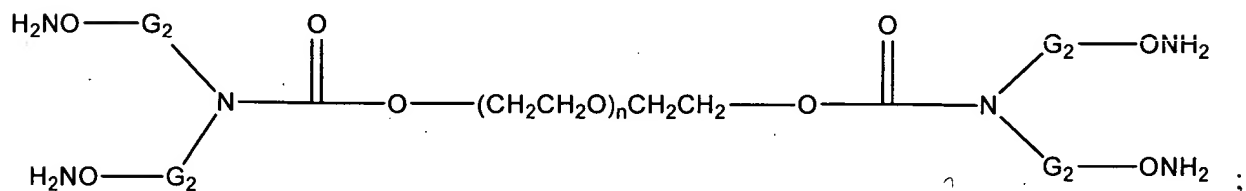
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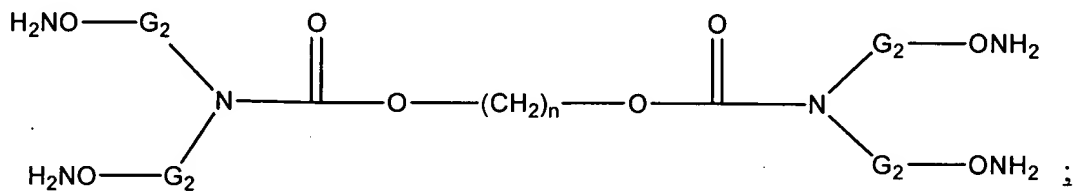
Formula 9



Formula 10

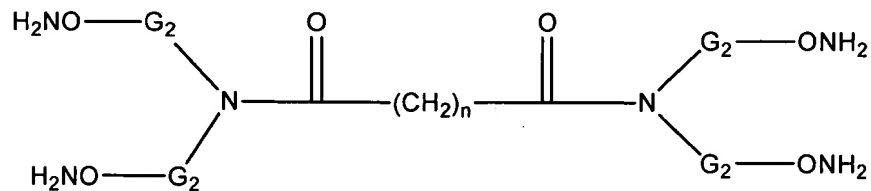


Formula 11



Formula 12

and,



Formula 13

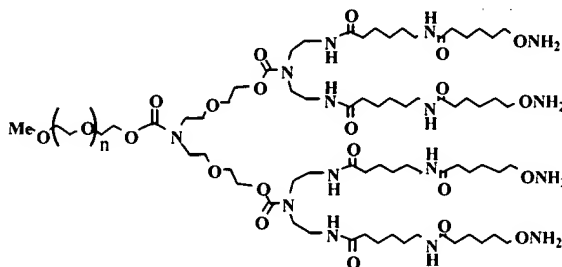
wherein n is 1 to 5,000 100.

76

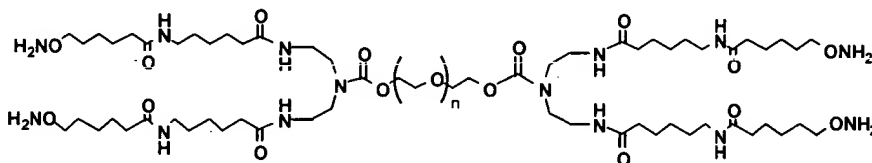
c

22
Claim 37 (original): The valency platform molecule of claim 36, wherein G₂ comprises an oxyethylene group.

23
Claim 38 (currently amended): A valency platform molecule having the structure:

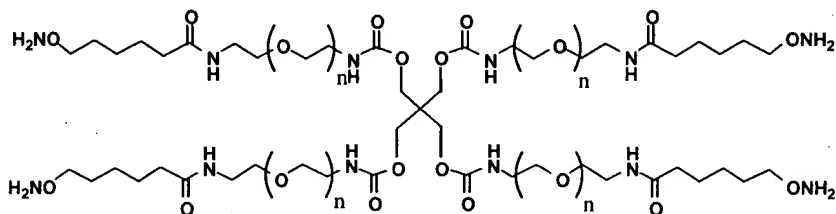


125e, where n is about 503; or



132, wherein n is about 481.

24
Claim 39 (currently amended): A valency platform molecule having the structure:



136, wherein n is about 112.

Claims 40-43 (withdrawn)

25
Claim 44 (currently amended): A conjugate of a molecule of claim 16 and a one or more biologically active molecule molecules.

26
Claim 45 (currently amended): A conjugate of a molecule of claim 36 and a one or more biologically active molecule molecules.

27
Claim 46 (currently amended): A conjugate of a molecule of claim 36 and a one or more biologically active molecule molecules.

28
Claim 47 (currently amended): A conjugate of a molecule of claim 39 and a one or more biologically active ~~molecule~~ molecules. 24

Claims 48-53 (withdrawn)

29
Claim 54 (new): The conjugate of claim 44 or 45 wherein the biologically active molecules are selected from the group consisting of: oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof. 25 26

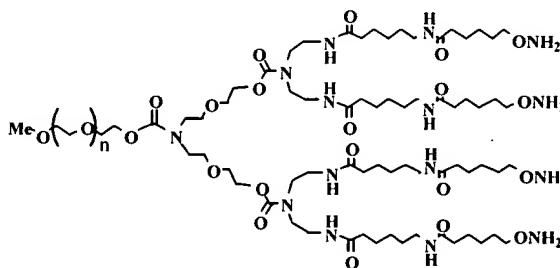
30
Claim 55 (new): The conjugate of claim 54, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI. 29

31
Claim 56 (new): The conjugate of claim 55, wherein the polypeptide lacks a T cell epitope. 30

32
Claim 57 (new): The conjugate of claim 55, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule. 30

33
Claim 58 (new): The conjugate of claim 54, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies. 29

34
Claim 59 (new): A valency platform molecule of claim 16 having the structure: 1



wherein the $(\text{CH}_2\text{CH}_2\text{O})_n$ moiety has a molecular weight of about 20K g/mol.

35
Claim 60 (new): A conjugate of a molecule of claim 59 and one or more biologically active molecules. 34

³⁶
Claim ~~61~~ (new): The conjugate of claim ~~60~~³⁵, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

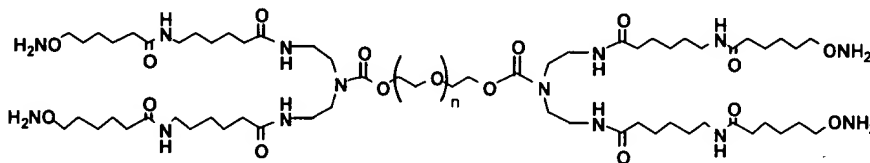
³⁷
Claim ~~62~~ (new): The conjugate of claim ~~61~~³⁶, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

³⁸
Claim ~~63~~ (new): The conjugate of claim ~~62~~³⁷, wherein the polypeptide lacks a T cell epitope.

³⁹
Claim ~~64~~ (new): The conjugate of claim ~~62~~³⁷, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

⁴⁰
Claim ~~65~~ (new): The conjugate of claim ~~61~~³⁶, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

⁴¹
Claim ~~66~~ (new): A valency platform molecule of claim ~~15~~⁷ having the structure:



wherein the $(\text{CH}_2\text{CH}_2\text{O})_n$ moiety has a molecular weight of about 20K g/mol.

⁴²
Claim ~~67~~ (new): A conjugate comprising a molecule of claim ~~66~~⁴¹ and one or more biologically active molecules.

⁴³
Claim ~~68~~ (new): The conjugate of claim ~~67~~⁴², wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

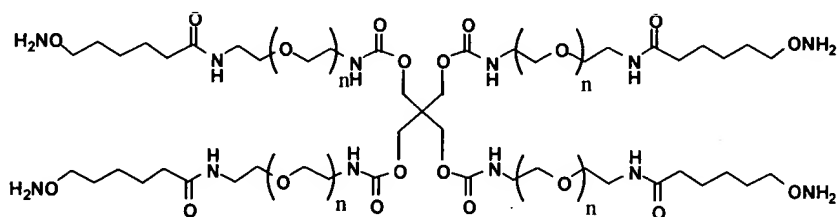
⁴⁴
Claim ~~69~~ (new): The conjugate of claim ~~68~~, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

⁴⁵
Claim ~~70~~ (new): The conjugate of claim ~~69~~, wherein the polypeptide lacks a T cell epitope.

⁴⁶
Claim ~~71~~ (new): The conjugate of claim ~~69~~, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

⁴⁷
Claim ~~72~~ (new): The conjugate of claim ~~68~~, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

⁴⁸
Claim ~~73~~ (new): A valency platform molecule of claim ~~16~~ having the structure:



wherein each $(\text{CH}_2\text{CH}_2\text{O})_n$ moiety has a molecular weight of about 5K g/mol.

⁴⁹
Claim ~~74~~ (new): A conjugate comprising a molecule of claim ~~73~~ and one or more biologically active molecules.

C1 ⁵⁰
Claim ~~75~~ (new): The conjugate of claim ~~74~~, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

⁵¹
Claim ~~76~~ (new): The conjugate of claim ~~75~~, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

⁵²
Claim ~~77~~ (new): The conjugate of claim ~~76~~, wherein the polypeptide lacks a T cell epitope.

~~53~~
Claim ~~78~~ (new): The conjugate of claim ~~76~~, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

~~54~~
Claim ~~79~~ (new): The conjugate of claim ~~75~~, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

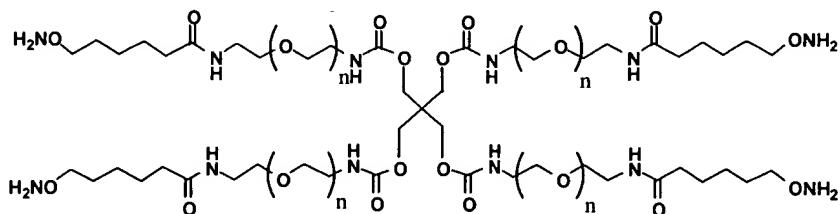
~~55~~
Claim ~~80~~ (new): The valency platform molecule of claim ~~28~~, wherein:

R^c is $C(CH_2^-)_4$;
 R^1 is H;
 n is 1;
 y is 4;
wherein G_2 comprises $-(CH_2CH_2O)_{p-1}-CH_2CH_2-$, wherein p is from 2 to about 500;
and wherein G_2 further comprises an amide moiety and a terminal aminooxy moiety.

~~56~~
Claim ~~81~~ (new): The platform molecule of claim ~~28~~, wherein:

R^c is $C(CH_2^-)_4$;
 R^1 is H;
 n is 1;
 y is 4;
wherein G_2 comprises $-(CH_2CH_2O)_p-$, wherein p is from 200 to 500;
and wherein G_2 further comprises an amide moiety and a terminal aminooxy moiety.

~~57~~
Claim ~~82~~ (new): A valency platform molecule of claim ~~16~~ having the formula:



wherein n is about 200 to about 500.

~~58~~
Claim ~~83~~ (new): A conjugate comprising a valency platform molecule of any one of claims ~~80~~, ~~81~~ or ~~82~~ and one or more biologically active molecules.

~~59~~
Claim ~~84~~ (new): The conjugate of claim ~~83~~, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

~~60~~
Claim ~~85~~ (new): The conjugate of claim ~~84~~, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

~~61~~
Claim ~~86~~ (new): The conjugate of claim ~~85~~, wherein the polypeptide lacks a T cell epitope.

~~62~~
Claim ~~87~~ (new): The conjugate of claim ~~85~~, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

~~63~~
Claim ~~88~~ (new): The conjugate of claim ~~84~~, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

~~64~~
Claim ~~89~~ (new): A method of making the conjugate according to claim ~~84~~, comprising: covalently bonding biologically active molecules to a valency platform molecule such that an oxime bond, or modified form thereof, is formed.

~~65~~
Claim ~~90~~ (new): The method of claim ~~89~~, wherein the modified oxime bond is a reduced or alkylated oxime bond.

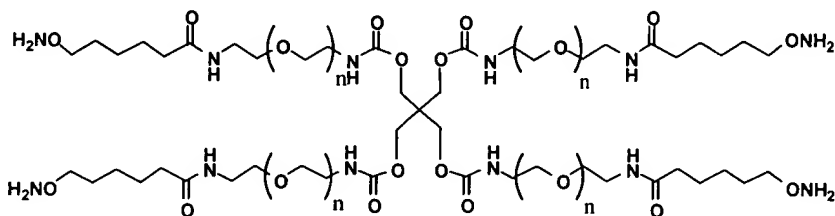
~~66~~
Claim ~~91~~ (new): The method of claim ~~89~~, wherein the valency platform molecule comprises an aminoxy group and the biologically active molecules comprise a reactive functional group such that an oxime bond is formed upon bonding the biologically active molecules to the valency platform molecule.

~~67~~
Claim ~~92~~ (new): The method of claim ~~91~~, wherein the reactive functional group is a carbonyl group of an aldehyde or ketone moiety.

~~68~~
Claim ~~93~~ (new): The method of claim ~~92~~, wherein the biologically active molecules comprise a polypeptide; and, wherein the method comprises modifying the polypeptide prior to bonding

with an aminooxy group on the valency platform molecule, such that the polypeptide comprises a terminal aldehyde group.

69
Claim 94 (new): The valency platform molecule of claim 28, having the following formula:



wherein each $-(CH_2CH_2O)_n-$ group is less than about 10K molecular weight.

70
Claim 95 (new): The valency platform molecule of claim 21, wherein n is 1-500.

71
Claim 96 (new): A conjugate comprising a molecule of claim 21 and one or more biologically active molecules.

72
Claim 97 (new): The conjugate of claim 96, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

CI
73
Claim 98 (new): The conjugate of claim 97, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

74
Claim 99 (new): The conjugate of claim 98, wherein the polypeptide lacks a T cell epitope.

75
Claim 100 (new): The conjugate of claim 98, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

76
Claim 101 (new): The conjugate of claim 97, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

77
Claim 102 (new): The valency platform molecule of claim 21, wherein n is 200-500.

78
Claim 103 (new): The valency platform molecule of claim 16, wherein G₂ comprises an organic group consisting only of carbon, oxygen, and hydrogen atoms, and having from 1 to 5,000 carbon atoms.

79
Claim 104 (new): The valency platform molecule of claim 103, wherein G₂ comprises oxyethylene units:



wherein n is 1-200.

80
Claim 105 (new): The valency platform molecule of claim 103, wherein G₂ comprises oxyethylene units:



wherein n is 200-500.

81
Claim 106 (new): The valency platform molecule of claim 16, wherein the valency platform molecule is symmetric.

82
Claim 107 (new): The valency platform molecule of claim 16, wherein the valency platform molecule has a valence of four.

83
Claim 108 (new): The valency platform molecule of claims 16, 21, 25 or 36, wherein the valency platform molecule comprises one or more bivalent linker molecules that may be used for linking a biologically active molecule to the valency platform molecule, wherein the linker molecules comprise aminoxy groups that are optionally protected with an aminoxy protecting group, and wherein the bivalent linker molecules are bonded to the valency platform molecule such that a linkage bond is formed between the divalent linker molecule and the valency platform molecule.

84
Claim ~~109~~ (new): The valency platform molecule of claim ~~108~~, wherein the linkage bond that is formed is selected from the group consisting of: an amide linkage, a carbamate linkage, a thioether linkage and an oxime linkage.

85
Claim ~~110~~ (new): The valency platform molecule of claim ~~109~~, wherein the linkage bond is formed by reacting the valency platform molecule with the bivalent linker molecule, wherein the bivalent linker molecule comprises a functional moiety that is selected from the group consisting of: amine, acid carbonate ester, thiol, aminooxy, and carboxylic acid.

86
Claim ~~111~~ (new): The valency platform molecule of claim ~~110~~, wherein the valency platform molecule is dendritic.

87
Claim ~~112~~ (new): The valency platform molecule of claim ~~111~~, wherein R^C and each G_2 independently comprise a straight chain, branched or cyclic structure, and are independently selected from the group consisting of:

hydrocarbonyl groups consisting only of H and C atoms and having 1 to 500 carbon atoms;
organic groups consisting only of carbon, oxygen, and hydrogen atoms, and having 1 to 500 carbon atoms;

organic groups consisting only of carbon, oxygen, nitrogen, and hydrogen atoms, and having from 1 to 500 carbon atoms;

organic groups consisting only of carbon, oxygen, sulfur, and hydrogen atoms, and having from 1 to 500 carbon atoms; and,

organic groups consisting only of carbon, oxygen, sulfur, nitrogen and hydrogen atoms and having from 1 to 500 carbon atoms.

C1
88
Claim ~~113~~ (New): A conjugate comprising a valency platform molecule of claim ~~112~~ and one or more biologically active molecules.

89
Claim ~~114~~ (New): The conjugate of claim ~~113~~, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins,

antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

⁹⁰
Claim ~~113~~ (new): The conjugate of claim ~~114~~⁸⁹, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

⁹¹
Claim ~~116~~ (new): The conjugate of claim ~~115~~⁹⁰, wherein the polypeptide lacks a T cell epitope.

⁹²
Claim ~~117~~ (new): The conjugate of claim ~~115~~⁹⁰, wherein the conjugate comprises a linker that attaches the domain 1 polypeptide of β 2GPI to the valency platform molecule.

⁹³
Claim ~~118~~ (new): The conjugate of claim ~~114~~⁸⁹, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

⁹⁴
Claim ~~119~~ (new): A pharmaceutical composition comprising the conjugate of any of claims ~~44~~²⁵, ~~45~~²⁶, ~~65~~²⁷, ~~76~~²⁸, ~~80~~²⁹, ~~98~~³⁰ or ~~114~~⁸⁹ and a pharmaceutically acceptable carrier.

⁹⁵
Claim ~~120~~ (new): A conjugate comprising a molecule of claim ~~29~~¹⁴ and biologically active molecules.

⁹⁶
Claim ~~121~~ (new): The conjugate of claim ~~120~~⁹⁵, wherein the biologically active molecules are selected from the group consisting of oligonucleotides, peptides, polypeptides, proteins, antibodies, saccharides, polysaccharides, epitopes, mimotopes, enzymes, hormones, drugs, nucleic acids, lipids, fatty acids, and mixtures thereof.

⁹⁷
Claim ~~122~~ (new): The conjugate of claim ~~121~~⁹⁶, wherein the biologically active molecules comprise an α Gal epitope or analog thereof that specifically binds to anti- α Gal antibodies.

⁹⁸
Claim ~~123~~ (new): The conjugate of claim ~~121~~⁹⁶, wherein the biologically active molecules comprise a domain 1 polypeptide of β 2GPI.

99
Claim ~~124~~ (new): A composition comprising two or more valency platform molecules according to claim ~~28~~ ¹⁴, wherein the valency platform molecules have a polydispersity less than about 1.2.

100
Claim ~~125~~ (new): The valency platform molecule of claim ~~29~~ ¹⁴, wherein the valency platform molecule has a valence of four.

101
Claim ~~126~~ (new): The conjugate of claims ~~44, 45, 61, 68, 74, 97, 114 or 121~~ ^{25 26 36 43 49 72 89 96}, wherein the biologically active molecules comprise a polypeptide.

102
Claim ~~127~~ (new): The conjugate of claims ~~44, 45, 61, 68, 74, 97, 114 or 121~~ ^{25 26 36 43 49 72 89 96}, wherein the biologically active molecules comprise a nucleic acid.

103
Claim ~~128~~ (new): The conjugate of claims ~~44, 45, 61, 68, 74, 97, 114 or 121~~ ^{25 26 36 43 49 72 89 96}, wherein the biologically active molecules comprise an oligonucleotide.

104
Claim ~~129~~ (new): The conjugate of claim ~~126~~ ¹⁰⁰, wherein the polypeptide lacks a T cell epitope.

105
Claim ~~130~~ (new): The valency platform molecule of claim ~~38~~ ²¹, wherein n is 1 to 500.